

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Centrica PB Limited
Peterborough Power Station
Storeys Bar Road
Peterborough
Cambridgeshire
PE1 5NT

Variation Application Number

EPR/AP3233LU/V005

Consolidated permit number

EPR/AP3233LU

Peterborough Power Station

Permit number EPR/AP3233LU

Introductory note

This introductory note does not form a part of the notice.

Under the Environmental Permitting (England & Wales) Regulations 2010 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies that all the conditions of the permit have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made and contains all conditions relevant to this permit.

The consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issued. It also modernises all conditions to reflect the conditions contained in our current generic permit template.

The requirements of the Industrial Emissions Directive (IED) 2010/75/EU are given force in England through the Environmental Permitting (England and Wales) Regulations 2010 (the EPR) (as amended).

The installation was previously permitted to operate three large one Large Combustion Plants (LCP); LCP No. 55 a 339 MW open cycle gas turbine, LCP No. 56 a 346MW open cycle gas turbine, and LCP No.402 for two proposed, unbuilt 330MW open cycle gas turbines.

This variation removes from the permit, LCP 402, the unbuilt open cycle gas turbines and adds a peaking plant comprising up to five reciprocating spark-ignition gas engines. The new peaking plant will have a total thermal input of circa 105 MWth and will produce up to 49.9 MWe of electricity gross. This will operate to provide additional energy security during periods of peak electricity consumption within the UK. This electricity will be exported to the grid. Operation of the peaking plant is limited to 1,500 hours per annum per engine. Cooling for the gas engines will be provided by new fin-fan coolers which will operate in a closed circuit

Emissions to air will result from the combustion of natural gas within the gas engines, which will be released into the atmosphere via 5 dedicated exhaust stacks 30m high. It is expected that there will be no significant sources of odour resulting from the operation of the peaking plant. The main pollutants from the facility will be gaseous combustion products (oxides of nitrogen and carbon monoxide). Assessment by the Environment Agency shows that the nitrogen dioxide (NO₂) impact from the proposed activity is likely to be insignificant at sensitive human receptors.

The existing OCGT's, LCP's No.55 and LCP No.56, continue to be limited to 500 hrs operation under the previously chosen IED compliance route.

The power station has a maximum electrical output of 240 MWe from the Open Cycle Gas Turbines and 49MWe from the gas spark engines. A pre-operational condition requires the operator to submit details of the final design for the proposed gas engines to the Environment Agency.

The installation is located on Storeys Bar Road in an area known as 'Eastern Industry' approximately 2.5km to the east of Peterborough town centre. The site is approximately 7.3 hectares in size and the centre of the site is at National Grid Reference 521900399100.

The site is located in an industrial area of Peterborough and is bordered to the south, west and north by other industrial or commercial properties. To the northeast and east of the site is open land consisting of fields and open drains. The site is in a low-lying fenland area in the floodplain of the River Nene, which is located approximately 1 km to the south. The closest residential dwellings are approximately 1,300m to the east and 1,000m to the west, beyond the A1139.

There are SSSI within 2km and Natura 2000 sites within 10km of the installation. Assessment by the Environment Agency shows that emissions from activities undertaken by the Installation are unlikely to have a significant impact on the habitat sites.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application AP3233LU	Duly made 20/03/06	Application for 405MW thermal input Power Station.
Request for extension to determination period	16/08/06	Request accepted 25/08/06.
Request for extension to determination period	24/10/06	Request accepted 03/11/06.
Permit determined AP3233LU	29/12/06	Original Permit issued to Centrica PB Limited.
Variation Application AP3233LU/V002	Duly made 13/07/12	Application to vary permit to allow open cycle operation.
Additional Information	17/10/12	Comments on draft variation notice.
Additional Information	02/11/12	Information regarding emergency use
Additional Information	02/12/12	Comments on draft variation notice.
Variation determined AP3233LU/V002	18/12/12	Variation notice Issued.
Variation application AP3233LU/V003	Duly Made 17/06/14	Application to add additional gas turbines.
Additional Information	02/10/14	Further details on operating mode.
Variation determined AP3233LU/V003	10/12/14	Variation notice Issued.
Regulation 60 Notice sent to the Operator	31/10/14	Issue of a Notice under Regulation 60(1) of the EPR. Environment Agency Initiated review and variation to vary the permit under IED to implement the special provisions for LCP under Chapter III, introducing new Emission Limit Values (ELVs) applicable to LCP, referred to in Article 30(2) and set out in Annex V. The permit is also updated to modern conditions.
Regulation 60 Notice response	31/03/15	Response received from the Operator.
Additional information received	06/12/15	Response to request for further information (RFI) dated 20/10/15.
Variation determined EPR/AP3233LU/V004 (PAS Billing ref: LP3934AY)	18/12/15	Varied and consolidated permit issued in modern condition format. Variation effective from 01/01/2016.
Variation application AP3233LU/V005	28/06/16	Application to add 5 gas spark engines peaking plant
Additional Information received	13/10/16	Response to Schedule 5 Notice Issued 21/09/16
Variation determined EPR/AP3233LU/V005 (PAS Billing ref: TP3838DN)	01/12/16	Variation notice Issued.

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

Permit number

EPR/AP3233LU

Issued to

Centrica PB Ltd ("the operator")

whose registered office is

**Millstream
Maidenhead Road
Windsor
Berkshire
SL4 5GD**

company registration number 04262250

to operate a regulated facility at

**Peterborough Power Station
Storeys Bar Road
Peterborough
Cambridgeshire
PE1 5NT**

to the extent set out in the schedules.

The notice shall take effect from 01/12/2016

Name	Date
J Linton	01/12/2016

Authorised on behalf of the Environment Agency

Schedule 1 – changes in the permit

Only conditions 2.1.1, 2.3.1, 2.3.5, 2.4.1, 2.5.1, 3.1.1, 3.1.2, 3.1.3, 3.5.1, 4.2.2 & 4.2.3 have been varied by the consolidated permit EPR/AP3233LU as a result of the application made by the operator.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/AP3233LU

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/AP3233LU/V004 authorising,

Centrica PB Ltd (“the operator”),

whose registered office is

**Millstream
Maidenhead Road
Windsor
Berkshire
SL4 5GD**

company registration number 04262250

to operate an installation at

**Peterborough Power Station
Storeys Bar Road
Peterborough
Cambridgeshire
PE1 5NT**

to the extent authorised by and subject to the conditions of this permit.

Name	Date
J Linton	01/12/2016

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

- 1.2.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) Take appropriate measures to ensure the efficiency of energy generation at the permitted installation is maximised.
 - (c) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (d) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
 - (b) maintain records of raw materials and water used in the activities;
 - (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
 - (d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

- 1.4.1 The operator shall take appropriate measures to ensure that:
- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
 - (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
 - (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

- 1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 For the following activities referenced in schedule 1, table S1.1 LCP55, and LCP56, and without prejudice to condition 2.3.1, the activities shall be operated in accordance with the “Electricity Supply Industry IED Compliance Protocol for Utility Boilers and Gas Turbines” revision dated December 2015, or any later version unless otherwise agreed in writing by the Environment Agency.
- 2.3.3 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.4 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.
- 2.3.5 For the following activities referenced in schedule 1, table S1.1
- (a): LCP55 and LCP56, operating in open cycle mode. The activities shall not operate for more than 500 hours per year
 - (b): Reciprocating Spark Ignition gas engines. The activities shall not operate for more than 1500 hours per year per engine.
- 2.3.6 For the following activities referenced in schedule 1, table S1.1 LCP55, and LCP56 the end of the start up period and the start of the shutdown period shall conform to the specifications set out in Schedule 1, Tables S1.2 and S1.5
- 2.3.7 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:
- (a) the nature of the process producing the waste;
 - (b) the composition of the waste;
 - (c) the handling requirements of the waste;
 - (d) the hazardous property associated with the waste, if applicable; and
 - (e) the waste code of the waste.

- 2.3.8 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

- 2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.
- 2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

- 2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.
- 2.5.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.
- 3.1.3 The emission limit values from emission points A2, A4, A10, A11, A12, A13 & A14 listed in schedule 3 table S3.1 measured during periods of malfunction and breakdown shall be disregarded for the purposes of compliance with table S3.1 emission limit values.
- 3.1.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

- (a) point source emissions specified in tables S3.1, S3.2 and S3.3.

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 & S3.3 unless otherwise agreed in writing by the Environment Agency.

3.6 Monitoring for the purposes of the Industrial Emissions Directive

Chapter III

- 3.6.1 All monitoring required by this permit shall be carried out in accordance with the provisions of Annex V of the Industrial Emissions Directive.
- 3.6.2 If the monitoring results for more than 10 days a year are invalidated within the meaning set out in schedule 3, the operator shall:
- (a) within 28 days of becoming aware of this fact, review the causes of the invalidations and submit to the Environment Agency for approval, proposals for measures to improve the reliability of the continuous measurement systems, including a timetable for the implementation of those measures; and
 - (b) implement the approved proposals.
- 3.6.3 Continuous measurement systems on emission points from the LCP shall be subject to quality control by means of parallel measurements with reference methods at least once every calendar year.
- 3.6.4 Unless otherwise agreed in writing by the Environment Agency in accordance with condition 3.6.5 below, the operator shall carry out the methods, including the reference measurement methods, to use and calibrate continuous measurement systems in accordance with the appropriate CEN standards.
- 3.6.5 If CEN standards are not available, ISO standards, national or international standards which will ensure the provision of data of an equivalent scientific quality shall be used, as agreed in writing with the Environment Agency.
- 3.6.6 Where required by a condition of this permit to check the measurement equipment, the operator shall submit a report to the Environment Agency in writing, within 28 days of the completion of the check.
- 3.6.7 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3, table S3.1; the Continuous Emission Monitors shall be used such that;
- (a) For the continuous measurement systems fitted to the LCP release points defined in Table S4.1 the validated hourly, monthly and daily averages shall be determined from the measured valid hourly average values after having subtracted the value of the 95% confidence interval.
 - (b) The 95% confidence interval for nitrogen oxides and sulphur dioxide of a single measured result shall be taken to be 20%.
 - (c) The 95% confidence interval for dust releases of a single measured result shall be taken to be 30%
 - (d) The 95% confidence interval for carbon monoxide releases of a single measured result shall be taken to be 10%
 - (e) An invalid hourly average means an hourly average period invalidated due to malfunction of, or maintenance work being carried out on, the continuous measurement system. However, to allow some discretion for zero and span gas checking, or cleaning (by flushing), an hourly average period will count as valid as long as data has been accumulated for at least two thirds of the period (40 minutes). Such discretionary periods are not to exceed more than 5 in any one 24-hour period unless agreed in writing. Where plant may be operating for less than the 24-hour period, such discretionary periods are not to exceed more than one quarter of the overall valid hourly average periods unless agreed in writing.
 - (f) Any day, in which more than three hourly average values are invalid shall be invalidated.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

- (a) be legible;
- (b) be made as soon as reasonably practicable;
- (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
- (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the resource efficiency metrics set out in schedule 4 table S4.2; and
- (c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.
- (d) Where condition 2.3.5 applies the hours of operation in any year shall be reported to the Environment Agency.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i) or 4.3.1 (b)(i) where the information relates to the breach of a condition specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

- (a) any change in the operator's trading name, registered name or registered office address; and
- (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

- (a) any change in the operator's name or address; and
- (b) any steps taken with a view to the dissolution of the operator.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

- 4.3.7 The operator shall inform the Environment Agency in writing of the closure of any LCP within 28 days of the date of closure.

4.4 Interpretation

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made immediately, in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	Section 1.1 A(1) (a) : Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more	<p>LCP55. Gas turbine (GT1) for production of electricity Open cycle operation using natural gas only</p> <p>LCP56. Gas turbine (GT2) for production of electricity Open cycle operation using natural gas only</p> <p>5 Reciprocating Spark Ignition gas engines for the production of electricity</p>	<p>From receipt of natural gas to discharge of exhaust gases, and the generation of electricity.</p> <p>Operation of gas turbines for no more than 500 hours per year.</p> <p>Operation of gas engines for no more than 1500 hours per year per engine.</p>
Directly Associated Activity			
A2	Directly associated activity	Surface water drainage to Racecourse drain.	Handling and storage of site drainage from external areas of the site, until discharged to the Racecourse drain.
A3	Directly associated activity	Miscellaneous utility systems (including emergency diesel generator, lubrication systems, control systems).	From receipt of raw materials to dispatch for use.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application	The response to sections 2.1 and 2.2 of the Application.	20/03/06
Variation Application EPR/AP3233LU/V002	Section 5 and Section 6 of the supporting information. Document referenced Doc Ref 1 'Application for a variation to Environmental Permit AP3233LU for Peterborough Power Station'	13/07/12
Variation Application EPR/AP3233LU/V003	Part C2 and C3 of the application and referenced supporting documentation.	17/06/14
Response to Regulation 60(1) Notice-request for information dated 31/10/14	Compliance route and operating techniques identified in response to questions 2 (chosen compliance route), 4 (LCP configuration), 5 (Net rated thermal input), 6 (start up and shut down), 9ii (ELV Limits), 11 (monitoring requirements).	31/03/15
Receipt of additional information to the regulation 60(1) Notice. requested by letter dated 20/10/2015	Further details provided on Net rated thermal input and Start up and Shut down thresholds for the gas turbines GT1>2.	06/12/15
Variation Application EPR/AP3233LU/V005	Section 3 of the application document "Centrica Peterborough Power Station. Application to vary Permit EPR/AP3233LU for Centrica PB Limited" provided in response to section 3a –technical standards, Part C3 of the application form.	28/06/16

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC1	<p>A written training plan shall be submitted to the Agency for approval, and the measures to comply with the requirements set out in Section 2.3 of the Agency Combustion Technical Guidance Note. The plan shall include but not be limited to:</p> <ul style="list-style-type: none"> - Identify all posts for which specific environmental awareness training is required; and - Identify the scope and level to which such training is to be given (this shall include contractors and those responsible for liaising with contractors and those purchasing equipment and materials). <p>The plan shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Completed
IC2	<p>The operator shall undertake an assessment of the primary, secondary and tertiary containment arrangements against the requirements of section 2.2.9 of the Combustion Technical Guidance Note to identify and address any deficiencies. The review shall include, but not be limited to:</p> <ul style="list-style-type: none"> - storage and transfer of diesel from storage tanks and unloading; - water treatment chemicals unloading; subsurface pipework; - contractors compound; and - air cooled condenser washings. <p>A written report of the assessment, including corrective actions and timescales shall be submitted to the Agency.</p> <p>The corrective actions shall be implemented from the date of approval by the Agency.</p>	Completed

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC3	<p>A written procedure shall be submitted to the agency detailing the measures to be used so that monitoring equipment, personnel and organisations employed for the emissions monitoring programme shall have either MCERTS certification or accreditation in accordance with condition 3.6.3.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the procedure.</p> <p>The procedure shall be implemented by the operator from the date of approval in writing by the Agency.</p>	Completed
IC4	<p>A written report shall be submitted to the Agency for approval. The report shall contain the findings of a water efficiency audit in accordance with the requirements of section 2.4.3 of IPPC Sector Guidance Note for the Combustion Sector, including dates for the implementation of individual improvement measures identified.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The improvements shall be implemented by the Operator from the date of approval in writing by the Agency.</p>	Completed
IC5	<p>The Operator shall submit a report to the Agency, summarising an improvement programme to achieve the benchmark levels given in the Environment Agency's Combustion Technical Guidance note for emissions of nitrogen dioxide from emission points A1 and A3. The improvement program shall contain dates for the implementation of any proposed changes.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the report.</p> <p>The plan shall be implemented by the operator from the date of approval by the Agency.</p>	Completed
IC6	<p>The operator shall carry out an energy efficiency audit in accordance with section 2.7 of IPPC Sector Guidance Note Combustion Activities. A written report of the audit shall be submitted to the Agency and shall include a plan for completion of any improvements identified. Where appropriate the plan shall contain dates for the implementation of individual measures.</p> <p>The notification requirements of condition 2.5.2 shall be deemed to have been complied with on submission of the plan.</p> <p>The plan shall be implemented by the operator from the date of approval by the Agency.</p>	Completed
IC7	<p>The operator shall produce a written site closure plan in line with the requirements of section 2.11 of the Combustion Technical Guidance Note. A copy of the site closure plan shall be submitted to the Agency.</p>	Completed
IC8	<p>It is not considered to be BAT to operate a CCGT in OCGT mode other than exceptional circumstances</p> <p>The operator should provide a justification of the circumstances under which it may be BAT to operate a CCGT in open cycle mode in the</p>	Completed

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>balancing market or other operating regimes. Parameters to consider should include:</p> <p style="padding-left: 40px;">Emissions to air and impact on human health Energy efficiency</p> <p>The Environment Agency will use this information along with information from other industry and National Grid to determine generic BAT conditions for the open cycle operation of CCGTs in competition with closed cycle plants.</p> <p>The operator should have regard to the requirements of the balancing market (eg start up time requirements) and define a maximum run time beyond which the service should be provided by high efficiency plant.</p>	
IC9	The operator shall submit a report on the feasibility of carrying out emissions monitoring during open cycle operation. The report shall include results from any monitoring that has been carried out during open cycle operation and how the results would relate to possible emission limit values.	Completed
IC10	<p>The operator shall provide a report in writing to the Environment Agency for acceptance which provides the net rated thermal input for LCP402. The net rated thermal input is the 'as built' value unless the plant has been modified significantly resulting in an improvement of the plant efficiency or output that increases the rated thermal input (which typically requires a performance test to demonstrate that guaranteed improvements have been realised).</p> <p>Evidence to support this figure, in order of preference, shall be in the form of:-</p> <p>a) Performance test results* during contractual guarantee testing or at commissioning (quoting the specified standards or test codes),</p> <p>b) Performance test results after a significant modification (quoting the specified standards or test codes),</p> <p>c) Manufacturer's contractual guarantee value,</p> <p>d) Published reference data, e.g., Gas Turbine World Performance Specifications (published annually);</p> <p>e) Design data, e.g., nameplate rating of a boiler or design documentation for a burner system;</p> <p>f) Operational efficiency data as verified and used for heat accountancy purposes,</p> <p>g) Data provided as part of Due Diligence during acquisition,</p> <p>*Performance test results shall be used if these are available.</p>	No longer required
IC11	The Operator shall submit a report in writing to the Environment Agency for acceptance. The report shall define and provide a written justification of the "minimum start up load" and "minimum shut-down load", for each	No longer required

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>unit within LCP 402 as required by the Implementing Decision 2012/249/EU in terms of:</p> <ul style="list-style-type: none"> i. The output load (i.e. electricity, heat or power generated) (MW); and ii. This output load as a percentage of the rated thermal output of the combustion plant (%). <p>And / Or</p> <ul style="list-style-type: none"> iii. At least three criteria (operational parameters and / or discrete processes as detailed in the Annex) or equivalent operational parameters that suit the technical characteristics of the plant, which can be met at the end of start-up or start of shut-down as detailed in Article (9) 2012/249/EU. 	
IC12	<p>For LCPD LCP120 and LCP121 (now LCP55 and LCP56 under IED). Annual emissions of dust, sulphur dioxide and oxides of nitrogen including energy usage for the year 01/01/2015 to 31/12/2015 shall be submitted to the Environment Agency using form AAE1 via the NERP Registry. If the LCPD LCP was a NERP plant the final quarter submissions shall be provided on the RTA 1 form to the NERP Registry.</p>	Completed
IC13	<p>The Operator shall submit a report in writing to the Environment Agency for acceptance. The report shall define and provide a justification of start-up and shut down definitions for the gas engines.</p>	3 months prior to completion of commissioning
IC14	<p>The operator will provide written notification to the Environment Agency of the date when commissioning of the gas engine units is complete</p>	1 month after completion of commissioning
IC15	<p>The operator shall provide a commissioning report to the Environment Agency, detailing</p> <ul style="list-style-type: none"> i) The results of the commissioning programme: and ii) Any significant changes to the information provided in the pre-operation condition report. 	1 month after completion of commissioning
IC16	<p>The Operator shall establish the methane emissions from the engines and compare these to the manufacturer's specification and appropriate benchmark level as agreed in writing with the Environment Agency.</p> <p>Based on the conclusions of this assessment the Operator shall propose an appropriate proposal to assess potential methane slip for the lifespan of the engines and outline an action plan that will be followed in the instance that emissions above the manufacturer's specification or appropriate benchmark level are identified.</p> <p>The result of the assessment and the proposed action plan shall be submitted in writing to the Environment Agency for approval.</p>	12 months from commissioning or as otherwise agreed in writing with the Environment Agency.
IC17	<p>The Operator shall establish emissions of carbon monoxide and formaldehyde from the engines.</p> <p>Using this information, an assessment of the impacts of carbon monoxide emissions and possible impacts of formaldehyde should be undertaken in line with our H1 guidance or equivalent methodology. A review of the emission levels in comparison to the relevant benchmark levels shall also</p>	12 months from commissioning or as otherwise agreed in writing with the Environment Agency.

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	be carried out. A written report detailing the findings of the assessment of the emissions, predicted impacts and the review in comparison to the relevant benchmarks should be submitted to the Environment Agency for approval.	

Table S1.4 Pre-operational measures for future development	
Reference	
1	<p>The operator shall submit a report to the Environment Agency providing detailed design(s) for the new gas engines and a finalised location plan.</p> <p>The operator shall undertake a review of the final detailed design/ plans for the new unit(s) prior to construction to ensure that:</p> <ol style="list-style-type: none"> 1) the final design will meet the requirements of BAT; . 2) the application still accurately reflects the final operating proposals; and 3) the environmental impact assessment still accurately reflects the predicted impacts from the proposal. <p>The operator shall submit a written report to the Environment Agency for approval, 3 months prior to construction, detailing the findings of this review.</p>
2	The operator shall inform the Environment Agency in writing prior to fuel being burned for the first time in the new gas engine units.

Table S1.5 Start-up and Shut-down thresholds		
Emission Point and Unit Reference	“Minimum start up load” Load in MW and as percent of rated power output and/or when the criteria listed below for the LCP or unit have been met.	“Minimum shut-down load” Load in MW and as percent of rated power output and/or when the criteria listed below for the LCP or unit have been met.
A2 (LCP55/GT1)	75 MW; 62%	65 MW; 54%
A4 (LCP56/GT2)	75 MW; 62%	65 MW; 54%
A10,A11,A12,A13,A14	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC13	To be agreed in writing by the Environment Agency, following the outcome of improvement condition IC13

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Natural gas	-
Diesel Oil	<0.1% sulphur light fuel oil (diesel)

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)- these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A2 [Point A2 on site plan in Schedule 7] A4 [Point A4 on site plan in Schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	LCP No. 55 Gas turbine 1 LCP No. 56 Gas turbine 2	-	-	Concentration by calculation, every 4380 operational hours or 2 years whichever is sooner	Agreed in writing with the Environment Agency
A2 [Point A2 on site plan in schedule 7] A4 [Point A4 on site plan in Schedule 7]	Sulphur Dioxide	LCP No. 55 Gas turbine 1 LCP No. 56 Gas turbine 2	-	-	Concentration by calculation, every 4380 operational hours or 2 years whichever is sooner	Agreed in writing with the Environment Agency
A2 [Point A2 on site plan in schedule 7] A4 [Point A4 on site plan in Schedule 7]	Carbon Monoxide	LCP No. 55 Gas turbine 1 LCP No. 56 Gas turbine 2	-	-	Concentration by calculation, every 4380 operational hours or 2 years whichever is sooner	Agreed in writing with the Environment Agency
A5 [Point A5 on site plan in schedule 7]	-	Flue gases from 1.6MWth auxillary boiler	-	-	-	-

Table S3.1 Point source emissions to air						
Emission point ref. & location	Parameter	Source	Limit (including unit)- these limits do not apply during start up or shut down.	Reference period	Monitoring frequency	Monitoring standard or method
A6 [Point A6 on site plan in schedule 7]	-	Black start generator exhaust	-	-	-	-
A7 [Point A7 on site plan in schedule 7]	-	Flue gases from two fire water pumps	-	-	-	-
A10, A11, A12, A13, A14 [Points A10-A14 on site plan in schedule 7]	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Spark Ignition engine exhausts number 10-14 fired on natural gas	95 mg/m ³	-	Annually	BS EN 14792
	Carbon Monoxide		No limit set	-	Annually	BS EN 15058
	Oxygen		No limit set	-	Annually	BS EN 14789
	Water Vapour		No limit set	-	Annually	BS EN 14790
	As required by the Method Implementation Document for BS EN 15259		No limit set	-	Pre-operation and where there is a significant operational change	BS EN 15259
A15	Exhaust from black start diesel generator		No limit set	-		

Table S3.2 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
W1 on site plan in schedule 7 emission to Racecourse drain	No parameters set	Surface water run off, from roofs, roads and hard standing	-	-	-	No permanent sampling access required

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	Parameter	Source	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method
S1 on site plan in schedule 7	No parameters set	floor drains from within the auxiliary annex building; Steam turbine hall process and associated site drains;	-	-	-	No permanent sampling access required

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Oxides of nitrogen	A2, A4, A9	Every 2 Years	1 January
	A10, A11, A12, A13, A14	Every year	1 January
Carbon Monoxide	A2, A4, A9	Every 2 Years	1 January
	A10, A11, A12, A13, A14	Every year	1 January
Sulphur dioxide	A2, A4, A9	Every 2 Years	1 January

Table S4.2: Resource Efficiency Metrics	
Parameter	Units
Electricity Exported	GWhr
Heat Exported	GWhr
Mechanical Power Provided	GWhr
Fossil Fuel Energy Consumption	GWhr
Non-Fossil Fuel Energy Consumption	GWhr
Annual Operating Hours	hr
Water Abstracted from Fresh Water Source	m ³
Water Abstracted from Borehole Source	m ³
Water Abstracted from Estuarine Water Source	m ³
Water Abstracted from Sea Water Source	m ³
Water Abstracted from Mains Water Source	m ³
Gross Total Water Used	m ³
Net Water Used	m ³
Hazardous Waste Transferred for Disposal at another installation	t
Hazardous Waste Transferred for Recovery at another installation	t
Non-Hazardous Waste Transferred for Disposal at another installation	t
Non-Hazardous Waste Transferred for Recovery at another installation	t
Waste recovered to Quality Protocol Specification and transferred off-site	t
Waste transferred directly off-site for use under an exemption / position statement	t

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Thermal Input Capacity for each LCP	Annually	MW
Annual Fuel Usage for each LCP	Annually	TJ
Total Emissions to Air of NO _x for each LCP	Annually	t
Total Emissions to Air of SO ₂ for each LCP	Annually	t
Total Emissions to Air of dust for each LCP	Annually	t
Operating Hours for each LCP	Annually	hr
Energy usage for gas spark engines	Annually	MW
Gas spark engine operating hours	Annually	Operating Hours for each gas engine, total plant operating hours & number of runs

Table S4.4 Reporting forms				
Media/ parameter	Reporting format	Starting Point	Agency recipient	Date of form
Air & Energy	Form IED AR1-SO ₂ ,NO _x and dust mass emission and energy	01/01/16	National	31/12/15
LCP	Form IED HR1 – operating hours	01/01/16	National	31/12/15
Air	Form IED PM1 discontinuous monitoring and load	01/01/16	Area office	31/12/15
Resource Efficiency	Form REM1 –resource efficiency annual report	01/01/16	National	31/12/15
Gas Engine operating hours	Form operating hours –engine operating hours or other form as agreed in writing by the Environment Agency		Area office	December 2016
Gas engine air emissions	Form Air 1 or other form as agreed in writing by the Environment Agency		Area Office	December 2016

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“background concentration” means such concentration of that substance as is present in:

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“base load” means: (i) as a mode of operation, operating for >4000hrs pa; and (ii) as a load, the maximum load under ISO conditions that can be sustained continuously, i.e. maximum continuous rating.

“Black Start” means the procedure to recover from a total or partial shutdown of the UK Transmission System which has caused an extensive loss of supplies. This entails isolated power stations being started individually and gradually being reconnected to other power stations and substations in order to form an interconnected system again.

“calendar monthly mean” means the value across a calendar month of all validated hourly means.

“CEN” means Comité Européen de Normalisation

“Combustion Technical Guidance Note” means IPPC Sector Guidance Note Combustion Activities, version 2.03 dated 27th July 2005 published by Environment Agency.

“disposal”. Means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“DLN” means dry, low NO_x burners.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“large combustion plant” or “LCP” is a combustion plant or group of combustion plants discharging waste gases through a common windshield or stack, where the total thermal input is 50 MW or more, based on net calorific value. The calculation of thermal input, excludes individual combustion plants with a rated thermal input below 15MW.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“mcr” means maximum continuous rating.

“MSDL” means minimum shut-down load as defined in Implementing Decision 2012/249/EU

“MSUL” means minimum start-up load as defined in Implementing Decision 2012/249/EU

“Natural gas” means naturally occurring methane with no more than 20% by volume of inert or other constituents.

“ncv” means net calorific value.

“operational hours” are whole hours commencing from the first unit ending start up and ending when the last unit commences shut down.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

“recovery” means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“SI” means site inspector

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from gas turbine or compression ignition engine combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry for liquid and gaseous fuels; and/or
- in relation to emissions from combustion processes comprising a gas turbine with a waste heat boiler, the concentration in dry air at a temperature of 273K, at a pressure of 101.3kPa and with an oxygen content of 15% dry, unless the waste heat boiler is operating alone, in which case, with an oxygen content of 3% dry for liquid and gaseous fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

“year” means calendar year ending 31 December.

Schedule 7 – Site plan



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